P004 Hypoglycaemiant and antioxidant properties of methanol extract and commercial oil of *Nigella sativa L* seeds in alloxan and streptozotocin-induced diabetic rats

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Nigella sativa is a widely used medicinal plant in a number of human diseases. The oil fraction is known to be a potent analgesic and anti-inflammatory drug in rats. In this present study the anti-hyperglycaemia effect. The crude methanol extract and the commercial oil of plant seeds was investigated in both alloxan-induced and streptozotozin/nicootinamide-induced diabetic rats. Effects on the reducing power of the plasma and the osmotic fragility of erythrocytes as well as α-glycosidase activity was equally investigated. A daily oral administration of the two extract preparations leads to a significant decrease of glycaemia and a significant inhibition of α-glycosidase activity. The antioxidant capacity, measured by the FRAP technique was followed. The anti-hyperglycaemic effect of both extracts is not related to the inhibition of the intestinal glucose absorption or stimulation of insulin secretion. Therefore we suggest that the action is a result of the inhibition of enzymes involved in the liver neoglucogenesis pathway. As shown, the stress associated with the metabolic perturbation observed in diabetes induces a physiological anti-oxidant response, which probably masks the antioxidant effect of the two extract preparations used.

Key words: Nigella sativa, Diabetes, Alloxan, Glucose, FRAP, Oxidative stress, Osmotic fragility